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Atty Dkt No. 9000-0030.10
USSN: 09/234,733
PATENT

I. AMENDMENTS

In the Claims:

CI
1. (Currently amended) An isolated nucleic acid molecule consisting of a sequence selected from the group consisting of: (a) a sequence encoding an immunogenic polypeptide having at least 90% sequence identity to the contiguous amino acid sequence shown at positions 1 through 256, inclusive, of SEQ ID NO:2; and (b) a sequence encoding an immunogenic polypeptide having at least 90% sequence identity to the contiguous amino acid sequence shown at positions 1-228, inclusive, of SEQ ID NO:5, wherein any sequence variation between the sequence of (a) and the sequence of amino acids shown at positions 1 through 256 of SEQ ID NO:2 is due to a conservative amino acid substitution, and any sequence variation between the sequence of (b) and the sequence of amino acids shown at positions 1-228 is due to a conservative amino acid substitution.

2. (Previously amended) The nucleic acid molecule of claim 1 wherein said nucleic acid molecule encodes an immunogenic polypeptide having a sequence with at least 90% sequence identity to the contiguous amino acid sequence shown at positions 1 through 256, inclusive, of SEQ ID NO:2.

3. (Previously amended) The nucleic acid molecule of claim 1 wherein said nucleic acid molecule encodes an immunogenic polypeptide having a sequence with at least 90% sequence identity to the contiguous amino acid sequence shown at positions 1-228, inclusive, of SEQ ID NO:5.

4. (Currently amended) A recombinant vector comprising:
(a) a nucleic acid molecule encoding an immunogenic polypeptide comprising a sequence selected from the group consisting of: (i) a sequence having at least 90%

sequence identity to the contiguous amino acid sequence shown at positions 1 through 256, inclusive, of SEQ ID NO:2; and (ii) a sequence having at least 90% sequence identity to the contiguous amino acid sequence shown at positions 1-228, inclusive, of SEQ ID NO:5, wherein any sequence variation between the sequence of (i) and the sequence of amino acids shown at positions 1 through 256 of SEQ ID NO:2 is due to a conservative amino acid substitution, and any sequence variation between the sequence of (ii) and the sequence of amino acids shown at positions 1-228 is due to a conservative amino acid substitution; and

(b) control elements that are operably linked to said nucleic acid molecule whereby said coding sequence can be transcribed and translated in a host cell, and at least one of said control elements is heterologous to said coding sequence.

5. (Previously amended) A recombinant vector according to claim 4, wherein said nucleic acid molecule encodes an immunogenic polypeptide which comprises a sequence having at least 90% sequence identity to the contiguous amino acid sequence shown at positions 1 through 256, inclusive, of SEQ ID NO:2.

6. (Previously amended) A recombinant vector according to claim 4, wherein said nucleic acid molecule encodes an immunogenic polypeptide which comprises a sequence having at least 90% sequence identity to the contiguous amino acid sequence shown at positions 1-228, inclusive, of SEQ ID NO:5.

7. (Original) A host cell transformed with the recombinant vector of claim 4.

8. (Original) A host cell transformed with the recombinant vector of claim 5.

9. (Original) A host cell transformed with the recombinant vector of claim 6.

10. (Original) A method of producing a recombinant CAMP factor comprising:

- (a) providing a population of host cells according to claim 7; and
- (b) culturing said population of cells under conditions whereby the CAMP factor encoded by the coding sequence present in said recombinant vector is expressed.

11. (Original) A method of producing a recombinant CAMP factor comprising:

- (a) providing a population of host cells according to claim 8; and
- (b) culturing said population of cells under conditions whereby the CAMP factor encoded by the coding sequence present in said recombinant vector is expressed.

12. (Original) A method of producing a recombinant CAMP factor comprising:

- (a) providing a population of host cells according to claim 9; and
- (b) culturing said population of cells under conditions whereby the CAMP factor encoded by the coding sequence present in said recombinant vector is expressed.

13-43. (Canceled)

44. (Previously amended) An isolated nucleic acid molecule comprising a sequence selected from the group consisting of: (a) a sequence encoding the contiguous amino acid sequence shown at positions 1 through 256, inclusive, of SEQ ID NO:2; and (b) a sequence encoding the contiguous amino acid sequence shown at positions 1-228, inclusive, of SEQ ID NO:5.

45. (Previously amended) The nucleic acid molecule of claim 44 wherein said sequence encodes the contiguous amino acid sequence shown at positions 1 through 256, inclusive, of SEQ ID NO:2.

46. (Previously amended) The nucleic acid molecule of claim 44 wherein said sequence encodes the contiguous amino acid sequence shown at positions 1-228, inclusive, of SEQ ID NO:5.

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47. (Previously added) A recombinant vector comprising:

(a) a nucleic acid molecule according to claim 44; and

(b) control elements that are operably linked to said nucleic acid molecule

whereby said coding sequence can be transcribed and translated in a host cell, and at least one of said control elements is heterologous to said coding sequence.

48. (Previously added) A recombinant vector comprising:

(a) a nucleic acid molecule according to claim 45; and

(b) control elements that are operably linked to said nucleic acid molecule

whereby said coding sequence can be transcribed and translated in a host cell, and at least one of said control elements is heterologous to said coding sequence.

49. (Previously added) A recombinant vector comprising:

(a) a nucleic acid molecule according to claim 46; and

(b) control elements that are operably linked to said nucleic acid molecule

whereby said coding sequence can be transcribed and translated in a host cell, and at least one of said control elements is heterologous to said coding sequence.

50. (Previously added) A host cell transformed with the recombinant vector of claim 47.

51. (Previously added) A host cell transformed with the recombinant vector of claim 48.

52. (Previously added) A host cell transformed with the recombinant vector of claim 49.

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53. (Previously added) A method of producing a recombinant CAMP factor comprising:

(a) providing a population of host cells according to claim 50; and

(b) culturing said population of cells under conditions whereby the CAMP factor encoded by the coding sequence present in said recombinant vector is expressed.

54. (Previously added) A method of producing a recombinant CAMP factor comprising:

(a) providing a population of host cells according to claim 51; and

(b) culturing said population of cells under conditions whereby the CAMP factor encoded by the coding sequence present in said recombinant vector is expressed.

55. (Previously added) A method of producing a recombinant CAMP factor comprising:

(a) providing a population of host cells according to claim 52; and

(b) culturing said population of cells under conditions whereby the CAMP factor encoded by the coding sequence present in said recombinant vector is expressed.